Chapter 11 Test Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Genetics

Multiple Choice: Circle the best answer(s) for each question. The multiple answer questions may have more than 2 answers.

1. Which answer best describes the relationship between a dominant and a recessive allele on homologous chromosomes: (1 point)
   1. The recessive allele is expressed while the dominant allele is not.
   2. The dominant allele is expressed the same as the recessive allele.
   3. The dominant allele is expressed while the recessive allele is not.
   4. The dominant allele nor the recessive allele are expressed.
2. In a punnett square, which term best describes a parent that has two of the same alleles for one trait? (1 point)
   1. Codominance
   2. True breeding
   3. Incomplete dominance
   4. Hybrid
3. Circle all answers that are true about alleles and genes: (2 points)
   1. Different forms of genes are alleles
   2. One allele can code for different genes
   3. Different alleles correspond to many genes
   4. One gene can have several different alleles
   5. An allele is a type of gene
4. Circle all answers that are true about genotype and phenotype: (2 points)
   1. Phenotype determines genotype
   2. Genotype is described in a gene map
   3. Genotype determines phenotype
   4. By looking at the phenotype, the genotype can be determined
   5. By looking at the genotype, the phenotype can be determined

Matching: Write the letter of the definition that best defines the term. Each letter will only be used once and each one is worth 1 point.

\_\_\_\_\_ 5) Homozygous A) Different forms of genes

\_\_\_\_\_ 6) Heterozygous B) Sections of DNA that codes for a trait

\_\_\_\_\_ 7) Homologues C) Organism with two identical alleles

­­\_\_\_\_\_ 8) Linkage D) Genetic makeup

\_\_\_\_\_ 9) Phenotype E) Alleles of one trait sort separately from

alleles of another trait

\_\_\_\_\_ 10) Genotype F) One allele not completely dominant over

another

\_\_\_\_\_ 11) Gene map G) The allele expressed instead of its

homologue

\_\_\_\_\_ 12) Gene H) Organism with two different alleles

\_\_\_\_\_ 13) Allele I) Physical characteristics

\_\_\_\_\_ 14) Independent Assortment J) Both alleles contribute to the phenotype

\_\_\_\_\_ 15) Dominant K) The allele not expressed in the phenotype

\_\_\_\_\_ 16) Recessive L) Shows relative locations of genes on

chromosomes

\_\_\_\_\_ 17) Incomplete Dominance M) Genes located on the same chromosome

\_\_\_\_\_ 18) Codominance N) Two corresponding chromosomes

Answer the following questions with complete sentences and correlating illustrations. Make sure you include everything the question asks for.

19) Two true breeding parents mate, the mother with the ‘A’ allele and the father with the ‘a’ allele. Create the punnett square to show what the offspring genotypes are and describe how many of each phenotype there are in the parents and offspring. (5 points)

20) Which offspring from question are homozygous and which are heterozygous? Support your answer with a description. (3 points)

21) Two organisms with the alleles AB and AB mate. Alleles ‘A’ and ‘B’ are codominant alleles. Draw and fill out a punnett square to show offspring and list all organisms that are homozygous, heterozygous and how the alleles of each organism (parents and offspring) will be expressed in its phenotype. (6 points)

22) Why is crossing over important? Please illustrate what crossing over is. (3 points)

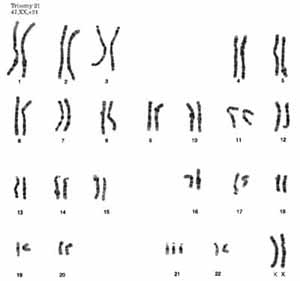
23) Compare and contrast linkage and independent assortment. Can one disrupt the other?

(3 points)

24) There are three terms that are very important for genetic variation among organisms. List these terms and describe how they are important to the genetic variation of a population.

(6 points)

25) Use the following gene map and determine how many chromosomes there are, where the abnormalities are, the sex of the organism, and what type of organism it is. (23) (4 points)



E.C. What does the abnormality you found cause?